

## Chemistry I: Chemical Nomenclature

Stuff to know for the test:

The following variable charge (transition metals) should be memorized:

Element	Old name	Stock name
$\text{Fe}^{+2}$	ferrous	iron (II)
$\text{Fe}^{+3}$	ferric	iron (III)
$\text{Cu}^{+1}$	cuprous	copper (I)
$\text{Cu}^{+2}$	cupric	copper (II)
$\text{Sn}^{+2}$	stannous	tin (II)
$\text{Sn}^{+4}$	stannic	tin (IV)
$\text{Pb}^{+2}$	plumbous	lead (II)
$\text{Pb}^{+4}$	plumbic	lead(IV)

Other metals with only one charge:

Zn is +2

Al is +3

Ag is +1

Polyatomic ions you have to know:

$\text{NO}_3^{-1}$	nitrate	$\text{NO}_2^{-1}$	nitrite
$\text{OH}^{-1}$	hydroxide	$\text{O}_2^{-2}$	peroxide
$\text{CO}_3^{-2}$	carbonate	$\text{HCO}_3^{-1}$	hydrogen carbonate (bicarbonate)
$\text{SO}_4^{-2}$	sulfate	$\text{SO}_3^{-2}$	sulfite
$\text{PO}_4^{-3}$	phosphate	$\text{C}_2\text{H}_3\text{O}_2^{-1}$	acetate (also written: $\text{CH}_3\text{COO}^{-1}$ )

This positive polyatomic ion: ammonium  $\text{NH}_4^{+1}$

Skills developed by the end of unit:

1. Correctly name compounds using IUPAC rules
2. Correctly write formulas using IUPAC rules
3. Determine percent composition of a compound given the formula
4. Determine empirical and molecular formula given percent composition of a compd.

**Keystone Anchor CHEM.A.1.1.5:** Apply a systematic set of rules (IUPAC) for naming compounds and writing chemical formulas (e.g., binary covalent, binary ionic, ionic compounds containing polyatomic ions).

**Enhanced Standards:** 3.2.C.A2; 3.2.C.A4